

CLAIMS

1. An echo canceller for removing an echo component by using an adoptive algorithm, the echo canceller comprising:

a pseudo-echo forming means including a pseudo-echo generation section for generating a pseudo-echo signal in accordance with a tap coefficient and a far-end input signal, and a coefficient update section for updating the tap coefficient;

a sending filter means for removing a low-frequency component included in a near-end input signal component;

a pseudo-echo filter means for removing a low-frequency component included in the pseudo-echo signal from the pseudo-echo forming means; and

an echo cancellation means for removing an echo component included in the near-end input signal component passing through the sending filter means, and an echo component in accordance with a pseudo-echo signal passing the pseudo-echo filter means.

2. The echo canceller according to Claim 1, wherein the coefficient update section updates the tap coefficient in accordance with a far-end input signal delayed by a period corresponding to the delay of the sending filter means and the pseudo-echo filter means.

3. The echo canceller according to Claim 1, further comprising a receiving filter means for removing a low-frequency component from the far-end input signal component, the receiving filter means being disposed between a far-end input terminal and the pseudo-echo forming means.

4. The echo canceller according to Claim 1, wherein the sending filter means, the pseudo-echo filter means, and the receiving filter means are variable filters;

the echo canceller further comprising a switch control means for controlling the removal frequency band of the sending filter means, the pseudo-echo filter means, and the receiving filter means, in accordance with a second audio signal, which has a wider communication band than a first audio signal, on a speech path.

5. The echo canceller according to Claim 4, wherein the switch control means detects a low-frequency component included in the far-end input signal component and the near-end input signal component, and the frequency band to be removed by the sending filter means, the pseudo-echo filter means, and the receiving filter means is controlled in accordance with a power of the detected low-frequency component.

6. The echo canceller according to Claim 4, wherein the switch control means controls a frequency band to be removed by the sending filter means, the pseudo-echo filter means, and the receiving filter means in accordance with a degree of influence on the tap coefficient updated by the coefficient update section by means of a non-fixed offset component of the far-end input signal in the low-frequency component.

7. The echo canceller according to Claim 6, wherein the switch control means obtains a mean value of the tap coefficients updated by the coefficient update section, and the tap coefficient determines a degree of influence by the offset component in the low-frequency component included in the far-end input signal in accordance with a

result of comparison between the mean value of the tap coefficient and a predetermined value.

8. The echo canceller according to Claim 1, wherein the sending filter means, the pseudo-echo filter means, and the receiving filter means are variable filters;

the echo canceller further comprising a filter characteristics control means for controlling the frequency band to be removed by the sending filter means, the pseudo-echo filter means, and the receiving filter means, in accordance with the tap length specified in the pseudo-echo forming means.